



# ENGINEERING *ESCHERICHIA COLI* FOR BIOFUEL PRODUCTION

## 1-propanol Extraction and Downstream Processes

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### Problem Statement

You need to complete a brainstorming session because your boss asks you to recover 1-propanol from the fermentation culture of the engineered *E. coli* strain CPC-PrOH3. How should you go about recovering propanol from the culture? What steps will be necessary? What technologies should you use? Will this be an energy intensive process? Can you link the upstream process to the downstream process? Does the operation of the upstream process (fermentation) affect what you will do in the downstream side? How? Why? Refer to the original case study “Engineering *Escherichia coli* for Biofuel Production” [1].

### References

- [1] Kajan Srirangan, Lamees Akawi, Lyndia Stacey, Cheryl Newton, Perry Chou and Marc Aucoin, Module 01. “Engineering *Escherichia coli* for Biofuel Production”. Waterloo Cases in Design Engineering (WCDE), University of Waterloo.